

	TECHNICAL REQUIREMENTS SISAL yarn	Identification code ST.FIL-N-SI-05	<small>SISTEMA DI GESTIONE QUALITÀ CERTIFICATO</small>  <small>UNI EN ISO 9001:2015</small> Pag. 1/3
---	--	---	---

1. SISAL YARN

- 1.1** The yarns must be obtained from Sisal fiber.
The yarns must be produced no more than a year before the date of delivery to the Administration.
- 1.2** The technical characteristics of the yarn must be those shown in the following tables (from 1.2.1 to 1.2.4):

Table 1.2.1.

Yarn – liner density	
<ul style="list-style-type: none"> Linear density of the yarn, in tex, must be indicated in the list of materials subject to the order. 	
<ul style="list-style-type: none"> The tolerance on the linear density must be $\pm 5\%$, compared to that required . 	

Table 1.2.2.

Breaking length	
Linear density	Breaking lenght
1.800 ÷ 5.000 tex	≥ 19 Km

Table 1.2.3.

Twist direction
<ul style="list-style-type: none"> The twist direction (S or Z) must be that indicated in the list of materials subject to the order. The number of turns is not significant.

	<p style="text-align: center;">TECHNICAL REQUIREMENTS</p> <p style="text-align: center;">SISAL yarn</p>	<p style="text-align: center;">Identification code ST.FIL-N-SI-05</p>	<p style="text-align: center;">SISTEMA DI GESTIONE QUALITÀ CERTIFICATO CQY CERTIQUALITY UNI EN ISO 9001:2015 Pag. 2/3</p>
---	---	--	---

Table 1.2.4.

Characteristics of the packages
<ul style="list-style-type: none"> • The yarns must be packaged on cylindrical bobbins, formed on tubes of cardboard or material possibly disposable as urban waste; • All packages must be palletized, wrapped with cardboard stretch film or material possibly disposable as urban waste; • Spool sizes: <ul style="list-style-type: none"> – Ø max 30 cm. – max lenght 30 cm. – Ø internal 3 cm.

2. SELF –CERTIFICATION OF THE SUPPLIER COMPANY

The company supplying the yarn will have to deliver also a Control / Test Report showing the response of the material supplied to the technical and product characteristics referred to in the previous point 1.

3. TESTS

- 3.1 The yarn testing tests will be carried out by Stabilimento Militare Produzione Cordami (SMPC).
- 3.2 The reels of sampling will be taken by SMPC from the material supplied.
- 3.3 All the characteristics indicated in the tables 1.2.1 ÷ 1.2.4 must be verified.
- 3.4 All the tests necessary for the verification of the characteristics referred to in paragraph 3.3 will be carried out by operating on a sample consisting of 1 (one) complete package for every 100 (one hundred) packages supplied and, in any case, from a number of packages not less than 5 (five).
- 3.5 The value of the average linear density, ie the average of the average values of the tex recorded on each package, must be included in the permitted tolerances.

	<p style="text-align: center;">TECHNICAL REQUIREMENTS</p> <p style="text-align: center;">SISAL yarn</p>	<p>Identification code ST.FIL-N-SI-05</p>	<p>SISTEMA DI GESTIONE QUALITÀ CERTIFICATO CQY CERTIQUALITY UNI EN ISO 9001:2015 Pag. 3/3</p>
---	---	--	---

- 3.6 The average breaking length will be given by the average of the values measured on each package, for each linear density.

The expression of the breaking length is given by the following report:

$$L = \frac{Cr}{0,98 * M}$$

L *is the breaking lenght in Km*
Cr *is breaking load in daN (decanewton)*
M *is linear density in Ktex*

- 3.7 At least 10 (ten) tests will be carried out on the bobbins making up the sampling for the determination of the average breaking load.
- 3.8 If, during the tests, only one of the values described above (linear density and / or breaking length) should be lower than specified, the tests will be repeated on a double number of samples taken as required by the test commission. In the event of non-compliance with one of the values mentioned above, the material will be refused upon acceptance.
- 3.9 SMPC reserves the right to take samples, from the yarn used for the test, for chemical / commodity analyzes aimed at ascertaining that the nature of the material corresponds to that requested. For analysis, SMPC will use a public laboratory. In case of negative results, the material will be refused.

Note: The quantities of yarns ordered must be construed as net (ie not considering the weight of the tubes and all the materials needed for packaging).